CLAIMS:

- A method for altering the differentiation status of a mammalian cell comprising:
 contacting a nucleic acid molecule containing the sequence set forth in SEQ ID NO:1 or
 SEQ ID NO:2, with said cell, wherein said molecule is capable of entering the cell; and
 culturing said cells whereby the differentiation status of the cell is altered.
- 2. The method of claim 1, wherein the differentiation status of said cell after culturing indicates that said cell is a neural progenitor cell.
- 3. The method of claim 1, wherein the nucleic acid contains a base other than A, U or a derivative thereof, at the position immediately 5' to the sequence of SEQ ID NO:1.
- 4. The method of claim 1, wherein the mammalian cell is a human cell.
- 5. The method of claim 1, wherein the differentiation status of the cell is determined by a change in expression level of a differentiation marker.
- 6. The method of claim 5, wherein the differentiation marker is selected from the group consisting of a *p-sept* protein, a *g-sept* protein, an *n-sept* protein, a nestin protein, a cyc D2 protein, and fragments and combinations thereof.
- 7. A cell or cell line produced by the method of claim 1.
- 8. A method for isolating a protein comprising:
 - contacting biological material containing said protein with a nucleic acid molecule comprising the sequence set forth in SEQ ID NO:1 or SEQ ID NO:2; and
 - separating protein that binds to said nucleic acid molecule from other components of the extract.
- 9. The method of claim 8 wherein the nucleic acid molecule is bound to a solid support.
- 10. An isolated complex comprising a protein that binds to a nucleic acid molecule containing the sequence of SEQ ID NO:1 or SEQ ID NO:2.
- 11. The complex of claim 10 wherein the protein is selected from the group consisting of a *p-sept* protein of approximately 16 kDa, a *g-sept* protein of approximately 23 kDa, an *n-sept* protein of approximately 29 kDa, and fragments, and combinations thereof.
- 12. An antibody or antibody fragment that specifically binds to the complex of claim 10.
- 13. A diagnostic kit comprising the antibody or antibody fragment of claim 12.
- 14. A method for producing a cell with an altered differentiation status comprising:

contacting a nucleic acid molecule comprising the sequence set forth in SEQ ID NO:1 or SEQ ID NO:2 with said cell wherein the molecule is capable of entering the cell; and culturing the cell whereby the differentiation status of the cell is altered.

- 15. The method of claim 14, wherein before culturing the cell has the differentiation status of a stem cell and after culturing the cell has the differentiation status of a neural progenitor cell.
- 16. The method of claim 14, wherein the molecule contains a base other than A, U or a derivative thereof at the position immediately 5' to the sequence of SEQ ID NO:1.
- 17. The method of claim 14, wherein the differentiation status of the cells is determined by a change in the level of a differentiation marker.
- 18. The method of claim 14, wherein the differentiation marker is selected from the group consisting of a *p-sept* protein, a *g-sept* protein, an *n-sept* protein, a nestin protein, a cyc D2 protein, and fragments and combinations thereof.
- 19. A cell or cell line produced by the method of claim 14.
- 20. A method of treating a disease comprising:

contacting a nucleic acid molecule containing the sequence set forth in SEQ ID NO:1 or SEQ ID NO:2 to a cell whereby the differentiation status of said cell is altered which thereby ameliorates a symptom of said disease.

- 21. The method of claim 20, wherein the cell is a stem cell or a progenitor cell.
- 22. The method of claim 20, wherein the cell is a neural cell.
- 23. The method of claim 20, wherein the altered cell generates a homogeneous population of such cells for transplantation.
- 24. The method of claim 20, wherein the disease is a CNS disorder, a neuro-degenerative disease, or a traumatic brain injury.
- 25. A pharmaceutical composition comprising: an isolated nucleic acid molecule comprising the sequence set forth in SEQ ID NO:1 or SEQ ID NO:2, wherein the molecule is capable of entering a cell and altering the differentiation status of said cell.

- 26. The composition of claim 25 further comprising one or more pharmaceutically acceptable carriers.
- 27. The composition of claim 25, wherein the nucleic acid molecule comprises DNA, RNA or PNA.
- 28. The composition of claim 25, wherein the cell is a neural cell.
- 29. The composition of claim 25, wherein the molecule contains a base other than A, U or a derivative thereof at the position immediately 5' to the sequence of SEQ ID NO:1.
- 30. The composition of claim 25, wherein the molecule is capable of altering a cellular function associated with septamer activity.
- 31. The composition of claim 30 wherein the cellular function associated with septamer activity is a differentiation status of the cell.
- 32. The composition of claim 25 wherein the cell is a neural cell.
- 33. The composition of claim 32, which is administered to a patient with a neurodegenerative disease or a traumatic brain injury.